

IN THE CLAIMS

Please substitute claims 1-10 with the following:

1. (Previously Presented) A transmitting apparatus for transmitting a hierarchical structure of a directory for hierarchically managing locations of contents data, comprising:
 - managing means for managing a hierarchical structure of a directory comprising a plurality of nodes, wherein each of said nodes is at a hierarchical level and comprises a container entry or a leaf entry, each of said container entries including information of nodes at lower hierarchical levels thereof, each leaf entry being located directly below one of the container entries, each leaf entry not including information of nodes at lower hierarchical levels thereof;
 - detecting means for detecting a change of the hierarchical structure of the directory managed by said managing means, detecting a change tracking value of said hierarchical structure on the basis of the detected change, and obtaining first difference information and second difference information, the first difference information corresponding to the change of the hierarchical structure of container entries, the second difference information corresponding to the change of the hierarchical structure of leaf entries;
 - generating means for generating first message and second message, the first message including said first difference information and a mask schema for interpreting a filtering mask, the second message including said second difference information and the filtering mask, wherein the filtering mask corresponds to information of one of the leaf entries being directly under one of the container entries; and
 - transmitting means for separately transmitting said first message and said second message.

2. (Previously Presented) The transmitting apparatus as set forth in claim 1, wherein said filtering mask comprises a value based on number of container entries on the hierarchical level directly above the one leaf entry.

3. (Original) The transmitting apparatus as set forth in claim 1, wherein said transmitting means adds identification information that identifies each leaf entry to the second difference information.

4. (Previously Presented) A transmitting method for transmitting a hierarchical structure of a directory for hierarchically managing locations of contents data, comprising the steps of:

(a) managing a hierarchical structure of a directory comprising a plurality of nodes, wherein each of said nodes is at a hierarchical level and comprises a container entry or a leaf entry, each of said container entries including information of nodes at lower hierarchical levels thereof, each leaf entry being located directly below one of the container entries, each leaf entry not including information of nodes at lower hierarchical levels thereof;

(b) detecting a change of the hierarchical structure of the directory managed at step (a), detecting a change tracking value of said hierarchical structure on the basis of the detected change, and obtaining first difference information and second difference information, the first difference information corresponding to the change of the hierarchical structure of container entries, the second difference information corresponding to the change of the hierarchical structure of leaf entries;

(c) generating first message and second message, the first message including said first difference information and a mask schema for interpreting a filtering mask, the second message

including said second difference information and the filtering mask, wherein the filtering mask corresponds to information of one of the leaf entries being directly under one of the container entries; and

(d) separately transmitting said first message and said second message.

5. (Previously Presented) A receiving apparatus for receiving a hierarchical structure of a directory for hierarchically managing locations of contents data that is transmitted, comprising:

receiving means for receiving first message, first identification information, second message, and second identification information, wherein said first message includes first difference information and said second message includes second difference information, the first difference information being obtained by detecting a change of container entries, the first identification information identifying each container entry added to the first difference information, the second difference information being obtained by detecting a change of leaf entries, the second identification information identifying each leaf entry added to the second difference information, the directory comprising a plurality of nodes, wherein each of said nodes is at a hierarchy level and comprises one of the container entries or one of the leaf entries, each of said container entries including information of nodes at lower hierarchical levels thereof, each leaf entry being located directly below one of the container entries, each leaf entry not including information of nodes at lower hierarchical levels thereof, said receiving means, the first message further including a mask schema for interpreting a filtering mask, the second message further including the filtering, wherein the filtering mask corresponds to information of one of the leaf entries being directly under one of the container entries;

managing means for managing the hierarchical structure of the directory formed corresponding to the first message and the second message; and

changing means for selectively obtaining the second message and changing the hierarchical structure of the directory managed by said managing means corresponding to the obtained second message.

6. (Previously Presented) The receiving apparatus as set forth in claim 5,

wherein said changing means selectively obtains the second message as one of the leaf entries of the lower hierarchical level of a container entry represented by the first identification information corresponding to selection information selectively designated to the first identification information and changes the hierarchical structure of the directory managed by said managing means.

7. (Previously Presented) A receiving method for receiving a hierarchical structure of a directory for hierarchically managing locations of contents data that is transmitted, comprising the steps of:

(a) receiving first message, first identification information, second message, and second identification information, wherein said first message includes first difference information and said second message includes second difference information, the first difference information being obtained by detecting a change of container entries, the first identification information identifying each container entry added to the first difference information, the second difference information being obtained by detecting a change of leaf entries, the second identification information identifying each leaf entry added to the second difference information, the directory comprising a plurality of nodes, wherein each of said nodes is at a hierarchy level and comprises

one of the container entries or one of the leaf entries, each of said container entries including information of nodes at lower hierarchical levels thereof, each leaf entry being located directly below one of the container entries, each leaf entry not including information of nodes at lower hierarchical levels thereof, said receiving means, the first message further including a mask schema for interpreting a filtering mask, the second message further including the filtering mask, wherein the filtering mask corresponds to information of one of the leaf entries being directly under one of the container entries;

(b) managing the hierarchical structure of the directory formed corresponding to the first message and the second message; and

(c) selectively obtaining the second message and changing the hierarchical structure of the directory managed at step (b) corresponding to the obtained second message.

8. (Previously Presented) A transmitting and receiving system for transmitting a hierarchical structure of a directory for hierarchically managing locations of contents data and receiving the transmitted hierarchical structure, comprising:

first managing means for managing a hierarchical structure of a directory comprising a plurality of nodes, wherein each of said nodes is at a hierarchical level and comprises a container entry or a leaf entry, each of said container entries including information of nodes at lower hierarchical levels thereof, each leaf entry being located directly below one of said container entries, each leaf entry not including information of nodes at lower hierarchical levels thereof;

detecting means for detecting a change of the hierarchical structure of the directory managed by said managing means, detecting a change tracking value of said hierarchical structure on the basis of the detected change, and obtaining first difference information and

second difference information, the first difference information corresponding to the change of the hierarchical structure of container entries, the second difference information corresponding to the change of the hierarchical structure of leaf entries;

generating means for generating first message and second message, the first message including said first difference information and a mask schema for interpreting a filtering mask, the second message including said second difference information and the filtering mask wherein the filtering mask corresponds to information of one of the leaf entries being directly under one of the container entries;

transmitting means for adding first identification information to the first difference information and second identification information to the second difference information and separately transmitting said first message and said second message, the first identification information identifying each container entry, the second identification information identifying each leaf entry;

receiving means for receiving the first message, the first identification information, the second message, and the second identification information transmitted by said transmitting means;

second managing means for managing the hierarchical structure of the directory formed corresponding to the first message and the second message; and

changing means for selectively obtaining the second message and changing the hierarchical structure of the directory managed by said second managing means corresponding to the obtained second message.

9. (Previously Presented) The receiving and transmitting system as set forth in claim 8,

wherein said changing means selectively obtains the second difference information as a one of the leaf entries of the lower hierarchical level of a container entry represented by the first identification information corresponding to selection information selectively designated to the first identification information and changes the hierarchical structure of the directory managed by said second managing means.

10. (Previously Presented) A transmitting and receiving method for transmitting a hierarchical structure of a directory for hierarchically managing locations of contents data and receiving the transmitted hierarchical structure, comprising the steps of:

(a) managing a hierarchical structure of a directory comprising a plurality of nodes, wherein each of said nodes is at a hierarchical level and comprises a container entry or a leaf entry, each of said container entries including information of nodes at lower hierarchical levels thereof, each leaf entry being located directly below one of said container entries, each leaf entry not including information of nodes at lower hierarchical levels thereof;

(b) detecting a change of the hierarchical structure of the directory managed at step (a), detecting a change tracking value of said hierarchical structure on the basis of the detected change, and obtaining first difference information and second difference information, the first difference information corresponding to the change of the hierarchical structure of container entries, the second difference information corresponding to the change of the hierarchical structures of leaf entries;

(c) generating first message and second message, the first message including said first difference information and a mask schema for interpreting a filtering mask, the second message including said second difference information and the filtering mask wherein the filtering mask corresponds to information of one of the leaf entries being directly under one of the container entries;

(d) adding first identification information to the first difference information and second identification information to the second difference information and separately transmitting said first message and said second message, the first identification information identifying each container entry, the second identification information identifying each leaf entry;

(e) receiving the first message, the first identification information, the second message, and the second identification information transmitted at step (c);

(f) managing the hierarchical structure of the directory formed corresponding to the first message and the second message; and

(g) selectively obtaining the second message and changing the hierarchical structure of the directory managed at step (f) corresponding to the obtained second message.